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| 09/781,801 | 02/12/2001 | Michael A. Peshkin | 98,593-C | 9006 |

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EXAMINER

SHAPIRO, JEFFERY A

ART UNIT

PAPER NUMBER

3653

DATE MAILED: 12/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|--------------------|----------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/781,801 | PESHKIN ET AL. |
| | Examiner | Art Unit |
| | Jeffrey A. Shapiro | 3653 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 27 November 2002.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

4) Claim(s) 1-4 and 6-29 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-4 and 6-29 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____.

2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.

6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-4 and 6-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazerooni (US 6,386,513 B1) in view of Anderson et al (US 5,590,046).

Kazerooni discloses the following intelligent assist system.

As described in Claim 1 and 12-29;

1. a plurality of wheels (71); (see fig 8, elem 71+
(see fig 9 near elem 81))
2. a communication interface providing input/output communication with other intelligent modules (see col. 5, lines 57-67 and col. 6, lines 1-16);
3. a support moving a payload, wherein the support is a cable (13) lowered by a reel (11), wherein the reel comprises a slidable translating reel, and the reel further comprises a cam follower, a motor encoder, a position indicator).
4. a handle or pendent (26) which provides for an up or down signal to lift or lower a payload;
5. a pendent (26)

6. stop and reset buttons; (see deadman switch, col. 8 line 48-50)
As described in Claim 2;

7. the actuator comprises gearing (see col. 5, lines 47-52);

As described in Claim 3;

9. the actuator comprises a motor (see col. 5, lines 38-40);

As described in Claim 9;

10. a position indicator (see col. 6, lines 3-16)

As described in Claims 10 and 11;

11. a hall switch for a position indicator and monitoring the motion of various components of the system; (Note that, at the very least, it is necessarily so that a position indicator would be used by the system of Kazerooni to indicate where the moving ends of the system are located, and that a hall switch is a functional equivalent well known to those ordinarily skilled in the art for indicating position. Note also that motion indicators and sensors are used to determine the rotation of the hub, for example.)

Kazerooni does not expressly disclose the following.

As described in Claims 1, 12 and 24;

1. an actuator for driving at least one of the wheels;
2. a computational node controlling actuation of the motor driving the wheels of the trolley;

As described in Claims 4 and 23;

3. the computational node implements a virtual limit controlling motion of the trolley;

As described in Claim 6;

4. the trolley comprises a roller;

As described in Claims 7 and 8;

5. a manual or automatic roller release;

Anderson et al discloses the following.

As described in Claim 1;

1. an actuator for driving at least one of the wheels (136, 204 or 210);
2. a computational node (140) controlling actuation of the motor driving the wheels of the trolley (see also figures 2 and 3);

As described in Claims 4 and 23;

3. the computational node implements a virtual limit controlling motion of the trolley (note proximity switches (224, 218, 174 and 176) which are used to indicate limits of travel);

As described in Claim 6;

4. the trolley comprises a roller (see figure 14);

As described in Claims 7 and 8;

5. a manual or automatic roller release (note that it would be expedient for one ordinarily skilled in the art to use either a manual or automatic brake—this is well known in the art—see also Kazerooni et al, figure 18B (note “engage the brake” step) and Santos, col. 5, lines 3-15);

Both Kazerooni and Anderson et al are analogous art because they both concern assisted/automatic lifting technology for the manufacturing environment.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to have used the trolley of Anderson et al to replace the trolley of Kazerooni. Note that the computer used by Kazerooni is readily interfacable by those ordinarily skilled in the art with the computer of Anderson et al, for example, in a master-slave configuration, in order to operate the drive wheels of the trolley. Further, it would have been expedient for one ordinarily skilled in the art to modify the computer of Kazerooni by itself to operate the drive wheels of the trolley.

The suggestion/motivation would have been to assist the operator of the lifting apparatus to move the trolley across the rail horizontally. See col. 8, lines 18-22 of Anderson et al.

Therefore, it would have been obvious to combine Kazerooni and Anderson et al in order to obtain the invention as described in Claims 1-4 and 6-29.

3. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazerooni in view of Santos. Kazerooni discloses the apparatus described above. Kazerooni does not expressly disclose the following.

As described in Claims 7 and 8;

1. a manual or automatic roller release;

Santos discloses the following.

As described in Claims 7 and 8;

1. a manual or automatic roller release (note that it would be obvious to one ordinarily skilled in the art to use either a manual or automatic brake—see also col. 6, lines 3-16);

At the time of the invention, it would have been obvious to one of ordinary skill in the art to have used automatic or manual braking of the trolley, as taught by Santos, in the trolley of Kazerooni. The suggestion/motivation would have been to assist the operator of the lifting apparatus to move the trolley across the rail horizontally for maintenance purposes, for example, when the electricity has been disabled. In addition, note that it is considered to be obvious to make a manual device automatic and an automatic device manual. It has been generally recognized that to automate a previously manual operation with the use of conventional control involves only routine skill in the art. Therefore, it would have been obvious to substitute automated braking means as automated control means for the manual control means. *In re Venner*, 120 USPQ 193 (CCPA 1958).

Therefore, it would have been obvious to combine Kazerooni and Anderson et al in order to obtain the invention as described in Claims 7 and 8.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-4 and 6-29 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-31 of copending Application No. 09/781,686. Although the conflicting claims are not identical, they are not patentably distinct from each other because the both claim a hub assist system with computer control.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

6. Applicant's arguments with respect to Claims 1-29 have been considered but are moot in view of the new ground(s) of rejection.

Applicants' assert that the trolley of Kazerooni does not disclose movement of the apparatus in a horizontal plane. However, as described above and in the last office action, figures 8 and 9 of Kazerooni clearly illustrate a rail (72) with trolley and wheels (81). Although not explicit about the operation of the trolley, it is clear that the lift apparatus of Kazerooni would not work unless it could move in a horizontal direction as well as the vertical. Operators of such an apparatus would not only want to lift an object vertically but also be able to move it horizontally so as to stack or sort packages, for example. As such, there is then clear motivation for one ordinarily skilled in the art to use the computer of Kazerooni to control the movement of the trolley. It is necessarily so that in order to operate such a trolley, at least one drive wheel in contact with the rail must be driven by a motor, which necessarily is controlled by the control computer. Further, it would be obvious to one ordinarily skilled in the art to employ a manual mode

of operation of the trolley, as common sense would dictate, since there are times when it can be envisioned that the electricity might be disconnected or disabled, thus leaving the trolley in an unsafe position. It would therefore be necessary for the operator to manually move the trolley and lift device to another safe position, until power was restored. In addition, Santos describes in detail a manual mode of operation. It is well-known in the art to provide automatic systems with manual operating modes for maintenance or power outages.

The computer of Kazerooni et al necessarily has inputs and outputs in order to communicate with the various parts of the system for effective control. Applicants assert that the system of Kazerooni is one single system having a single computer. However, the system of Kazerooni is just that—a system having various components such as sensors to sense forces and actuators to provide movement or braking of the lifting device. Reading the independent claims in their broadest reasonable interpretation, a computational node can be construed as a node within the system where values are computed. The system of Kazerooni et al has many such points. See figure 18B, for example.

It is well-known in the art for computers to have many input/output capabilities as well as to communicate with a multitude of devices. The typical personal computer (pc) is well-known to interface with many peripherals such as a hard drive, DVD or DC drive, and modem, for example, communicating inputs and outputs with each. The system of Kazerooni is computerized. Therefore combined with the system of Anderson et al,

there is motivation to interface the system of Kazerooni with the system of Anderson et al.

In addition, the manufacturing system of Anderson et al can be modified to replace the hoist apparatus as illustrated in figure 14 with the Kazerooni lift apparatus. The suggestion/motivation for doing so would be to provide the automated workcell the ability to accommodate semi-automated work processes within the cell. Such a modification would make the workcell more versatile at handling automated processes or processes which require human input, dexterity or judgment. Such a workcell necessarily communicates with plant-wide databases for scheduling, maintenance, etc.

See figure 2 of Anderson et al.

Finally, it is noted that Applicants have not responded to the **double-patenting rejections** made in the prior office action, and maintained in this one.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey A. Shapiro whose telephone number is (703)308-3423. The examiner can normally be reached on Monday-Friday, 9:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald P. Walsh can be reached on (703)306-4173. The fax phone numbers for the organization where this application or proceeding is assigned are (703)306-4195 for regular communications and (703)306-4195 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-1113.



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